# Huguenin et al.

[45] Date of Patent:

\* Dec. 17, 1991

## [54] CONTRABAND DETECTION SYSTEM

[75] Inventors: G. Richard Huguenin, South

Deerfield; Paul F. Goldsmith, Leverett; Naresh C. Deo, Conway; David K. Walker, Colrain, all of

Mass.

[73] Assignee: Millitech Corporation, South

Deerfield, Mass.

[\*] Notice: The portion of the term of this patent

subsequent to Dec. 13, 2007 has been

250/330-332, 334

disclaimed.

[21] Appl. No.: 286,210

[22] Filed: Dec. 19, 1988

### Related U.S. Application Data

[63]	Continuation-in-part of S	Ser. No.	183,215,	Apr.	19,
	1988, Pat. No. 4,901,084.				

[51]	Int. Cl.5	 G01S 13	3/89; H	D1L 27/146
[52]	U.S. CL.	 	342/17	9: 342/351:

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Primary Examiner—Gilberto Barrón, Jr. Attorney, Agent, or Firm—Pennie & Edmonds

### 57] ABSTRACT

A contraband detection system especially suited for detecting concealed non-metallic contraband such as ceramic or plastic weapons or illegal drugs carried by a person is disclosed. Plural sources of quasi-coherent millimeter wave radiation are disposed so as to uniformly illuminate a field of view. In the preferred embodiment, the radiation emitted by the sources is linearly polarized in a single plane such that the polarization of the radiation with respect to the plane in which linearly polarized radiation is preferentially received by the detectors can be controlled. For detection of dielectric objects, such as ceramic weapons or narcotics, these planes of polarization should be orthogonal to one another. The detector is a staring array which does not require scanning to generate an image of the entire field of view; the signal provided by each element of the detector array corresponds to the illumination reflected from objects in a single portion of the field of view. Real-time imaging of concealed dielectric and metallic objects is thus made possible.

## 42 Claims, 10 Drawing Sheets

